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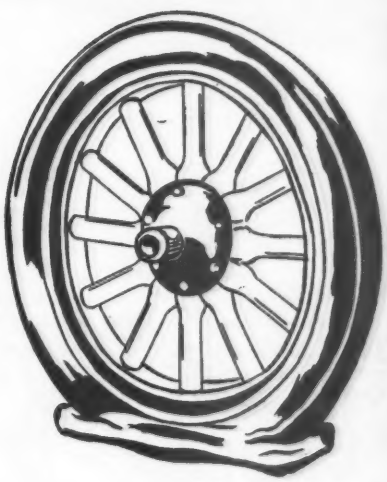

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Try us on your next perplexing problem. We promise good mileage.

Sincerely yours,

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Decreased Heights Of Interalveolar Space And Their Recapture In The Edentulous State

by Frank H. McKevitt, D.D.S.

A bewildered dental profession often wonders why uniform success does not attend all prosthetic efforts, and why certain prosthodontic problems are not brought to a successful conclusion without economic loss to the operator and the patient. Technical details mean little to the average patient, who looks askance at efforts to enlighten him. He assumes the operator, by virtue of his professional training, to be in a strategic position to solve his problem and bring it to a successful conclusion. Unfortunately, in a number of instances this order does not prevail. What makes a solution of the problem unattainable is a lack of basic knowledge.

To the operator an orderly step unit procedure for denture construction is understandable. But at times, during one of the steps, he meets with an insurmountable obstacle before and after the impression state. Initial step units in denture construction begin with the roentgenograms, pre-extraction casts, and the surgical preparation of the jaws for the reception of dentures. When consideration of these factors is by-passed, a vicious cycle ensues before the impression stage has been reached, the ill results of which cannot be encompassed until a new start is made and the obstacles are overcome. To be explicit, let us review the step units as they pertain to the pre-extraction casts illustrated here—Figs. 1 and 2—and used as aids to diagnosis and prognosis in a specific denture case.

The pre-extraction casts are of a patient seventy-one years of age. The first object presented to view is a marked decrease in the height of the interalveolar space, which has been encroached upon by three separate and distinct factors which must be taken cognizance of. The first is an osteodystrophia fibrosa which has occurred bilaterally to involve both maxillary tuberosities. The condition is characterized by hypertrophied, decalcified alveolar tissue that has descended to the superior border of the body of the mandible. The second factor consists of extruded mandibular molars, a condition that usually follows the loss of the opposing teeth. A third factor is depicted on the mandibular cast

(Fig. 2) and clearly shows the badly abraded occlusal surface of a mandibular first molar. As an end result of staggered extractions these phenomena have decreased the height of the original interalveolar space to its present extant dimension of 10 mm. The original height of the space is a matter of conjecture and can only be surmised. In this case all the teeth should be removed and the processes should be reduced to the lines indicated on the casts if the case is to be brought to a successful issue, which obviously it could not without pre-extraction casts as a guide. The extant 10 mm. height of the interalveolar space must be recaptured. In the light of present-day findings it is accepted that the location of the plane of occlusion and the height of the interalveolar space, or the terminus of the Bennett movement, are established by the eruption of the mandibular and maxillary first molars, and the two become an integrated unit.

It should be emphasized that the plane of occlusion is invariable once established and that the height of the interalveolar space is variable. Variations in its length and the results of atrophic changes in the alveolar process that increase its length. Conversely, the staggered loss of teeth, abraded teeth, extruded teeth, and soft tissue hypertrophies depicted here, decrease it. A further observation is that the normal height of the interalveolar space, at the time of eruption of the first molars, varies in different individuals. Therefore no average can be struck. Basic knowledge consists of a recognition of these factors at the time these lost dimensions are to be recaptured at the chair.

In this presentation, as we are concerned only with decreased heights of the interalveolar space, discussion will be limited to problems involved in their recovery in the edentulous state.

The primary objective is to recapture the correct plane of occlusion and the correct height of the interalveolar space. The physical structures that have maintained those two integrated factors as a unit have been lost. Our problem in the edentulous state is their accurate recovery.

Surgical Preparation of the Ridges

The surgical approach to the preparation of the ridges of this patient must be positive. A measurable way of controlling the 10 mm. height of the interalveolar space has been determined from the pre-extraction casts. This height must be surgically maintained to provide adequate space for the thickness of the base plate material and the ridge laps of the artificial teeth.

As both hypertrophied maxillary tuberosities have descended to the superior border of the body of the mandible, occlusal clearance must be reestablished for the artificial replacements. The lines drawn on the right and left sides of the casts indicate the extent of their necessary reduction. At this point it should be obvious exodontia and prosthodontia are so entwined that any shortcomings of the former will damage the plans of the latter.

Fig. 1 (above) depicts hypertrophied tuberosity, extruding mandibular molars, drifting maxillary left cuspid, and abraded mandibular left second bicuspid.

Fig. 2 (above) View of right side of Fig. 1, showing hypertrophied tuberosity and badly abraded mandibular right first molar, factors that decrease the height of the interalveolar space.

A PLEA TO THE WRITERS OF DENTAL TEXTBOOKS

Reams have been written on teeth and the child.

We're taught what to do with the wilful and mild,

But nowhere can be found—irregardless of text—

How to handle the *parents* who arrive nervous wrecks!

A. Shure, D.D.S.

Away from the chair the overall height of the interalveolar space is taken from occluded pre-extraction casts by placing one point of the dividers on the maxillary cast on the median line of the ridge crest at the elevation of the papilla of the maxillary rugae for reasons that will be explained later. The other point of the dividers is placed in the median line of the mandibular ridge crest. The distance is recorded on a millimeter gauge for further elaboration at the chair. The maxillary papilla is located lingually and is inaccessible for measurement unless it is offset labially on the case, i.e., when teeth are present. This can be effected with a towel clip or an outside caliper. It is an important landmark and is seldom disturbed surgically and is relieved slightly during the impression stage.

After surgery, when the cast has been poured and the base plate material has been adjusted to it, the papilla will leave a marked depression in it. It therefore becomes the lowest point on the maxillary occlusal rim into which the beak of the Boley gauge must fall. Hence its importance as a fixed maxillary landmark, when recovering the height of the maxillary occlusal plane at the chair.

At the chair the tragus-ala line is drawn on the face with a soft tissue pencil. The predetermined length of the maxillary incisor has been measured in millimeters and its length is now recorded on the maxillary compound rim by placing one beak of the gauge in the depression formed by the papilla and the other on the labial surface of the compound rim which should have the same labial inclination as the natural incisor. With this as a target the right side of the occlusal rim is heated and paralleled antero-posteriorly with the tragus-ala line on the face and laterally with a line drawn through the pupils of the eyes. (The armamentarium used in paralleling is a celluloid millimeter gauge and an occlusal blade 1 millimeter by 6 inches.) Away from the chair the left side of the rim is heated and carefully equalized with the right side. When chilled and checked it is notched for the reception of the occlusal surface of the mandibular occlusal rim, which is heated and closed against the maxillary occlusal rim to the dimension taken from the occluded pre-extraction casts.

Before mounting the casts on the articulator, they may be duplicated in a hydro-colloid impression material and the bite rims (which can be preserved) replaced upon them for rechecking with the finished dentures. A series of these will convince the operator that seldom will two or more successive cases reveal the same vertical dimension and that recapturing the correct occlusal plane and the correct height of the interalveolar space can be measured and not guessed at. For the general practioner, the gothic arch tracing check bites and an adaptable articulator can be waived when 20° teeth are used in conjunction with a Gysi Simplex articulator.

In this presentation an attempt has been made to make obvious the need to recapture the correct plane of occlusion in advance of the height of the interalveolar space from pre-extraction casts.

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AMERICAN CANCER SOCIETY

On the Business Side:

A Friendly, Silent Partner

"Oh, yes," the woman was saying, "Doctor Smith's office is furnished beautifully, but the waiting room is so cold."

The patient wasn't referring to the lack of heat, but to the atmosphere of the place. Perhaps she was right. The room might have been tastefully furnished in a colorful modern motif or the clean lines of colonial styling. It was probably well stocked with magazines of every description and catering to every taste from comics and news periodicals to screen stories and the easy digestible digests. And the air might have been filled with the strains of soft music.

"Human Interest"

Why then was the atmosphere cold? If you posed that question to the patient she would probably hem and haw and say she doesn't know "but the place isn't friendly." So that's it—lack of "human interest."

Doctor Smith is a good dentist, considerate and kindly, but he doesn't have much time to babble with the patient. He is too busy. Therefore, to the gregarious and friendly patient, the office is "cold."

Needed: One Bulletin Board

What Doctor Smith needs is a silent partner, an alter ego, to amuse and interest his patients, and what could be better than a bulletin board in the waiting room? Even if you are Doctor Personality himself, try keeping a bulletin board in your office —the patients will appreciate it.

The bulletin board need not be elaborate nor very large, and setting it up is about as simple as hanging a picture. A good-sized, cork, compositional board with wooden frames costs less than five dollars. The board should be placed at the most effective spot, one that will allow for the maximum amount of visibility and where viewers will not block traffic. Besides its use as diversion for the restless patient who is too fidgety to read a magazine, it is a showcase for instructive health ideas and human interest material for all your patients. And if you're not the type who can rattle off a joke with the ease of a Hope or Berle, post the jokes on the board.

Material for the Board

A typical board might display pertinent news items on health, as well as cartoons and fillers related to dentistry and the allied professions. Anecdotes and captioned photographs are also advisable. The bulletin board is also a good place to post material about some of your own exploits—pictures from your last fishing trip, a news item about the lecture you gave or the golf tournament you won. Above all, keep all the news timely and make the entire thing a personalized affair—give it the friendly, human touch. Avoid editorializing or preaching about any one of your own pet theories.

A pharmacist in Alabama who lines the walls of his store with pictures of local physicians found out that the customers enjoy recognizing the physician or dentist who just wrote their prescription. By the same token, you might consider posting pictures of your patients. They'll certainly be pleased to view them and some patients will enjoy learning that other persons are also patients of yours.

A bulletin board can be interesting, informative, and lend a homey, warm atmosphere to your office. Besides, it's a friendly, silent partner that doesn't share in the profits. Try it. You'll be surprised how pleased your patients will be.

"THE RESEMBLANCE IS STRONG, BUT NOT ONLY DIDN'T I ENDORSE ANYTHING, I DON'T SMOKE AT ALL!"

HOSPITALS CAN PROMOTE BETTER MEDICAL-DENTAL RELATIONS

by Douglas W. Stephens, D.D.S.

Editor, Third District, Southern California Dental Association; Staff Member, Seaside Memorial Hospital, Long Beach

It has been said that a dark *terra incognita* lies between the practice of medicine and the practice of dentistry. When a patient approaches a dentist with an oral condition showing signs of systemic disease, or when a physician sees general conditions he suspects originate from the mouth, then and only then does either medicine or dentistry enter into the dark no-man's-land that separates these two branches of the healing arts.

The fact that the two professions are not closer together is not the fault of either. Both are busy in their respective fields. Both, it can be said, are desirous of a closer relationship. In the last ten years much has been done to bring about a better understanding between the two professions. Medical-dental seminars and joint meetings have been set up. Dentists have tried to see the whole patient instead of confining their study to a narrow field. Medicine, realizing the place modern dentistry has carved for itself in the healing arts, has developed a different view of the ability of the dentist to aid in the general health service to the patient.

However, in spite of these attempts to bring the professions closer together, there still exists a wide gap that has narrowed but little in the past few years.

Realizing that in the city of Long Beach, California, this abyss between dentistry and medicine was still wide, two dentists, Doctor Adrian Hubbell and Doctor Leroy Pitman, members of the dental staff of the Seaside Memorial Hospital at Long Beach, decided to work out a plan that would bring the two professions working in closer harmony.

Up to this time Seaside, like most hospitals, had confined its dental staff members to a few oral surgeons and exodontists who had occasion to bring patients to the hospital. Doctor Pitman suggested that if the staff was enlarged from twenty to thirty members both professions would profit. In conference with the hospital chief of staff it was pointed out that although the two or three oral surgeons who used the hospital had no trouble with hospital procedure, other dentists—members of the local dental society—who used the hospital facilities only on rare occasion found difficulty in adjusting themselves to the hospital routine. It was also pointed out that many of the local dentists would be interested in a closer relationship with the medical profession, even though their specialties—orthodontia, periodontia, prosthodontia—precluded their having much opportunity to bring patients to the hospital.

The plan proposed was to make any dentist who was an ethical member of the local dental society and who had been recommended by two senior staff members of the hospital, eligible to join. When the first group was organized, about thirty dentists, they were given a lecture by a senior medical staff

"IT WAS LIKE PULLING TEETH, BUT I FINALLY GOT FIVE DOLLARS OUT OF McGREGOR!"

member on hospital organization and procedure, followed by a tour of the hospital to acquaint the dentists with its facilities. It was decided that the staff membership should be closed for the present.

Although members of the dental staff have been invited to attend the monthly meetings of the general staff, if they wish, they must attend at least 80 percent of the separate, monthly meetings that are held specially for the dental staff.

The medical staff members of the hospital responded well when asked to instruct at these dental staff meetings. Some of the subjects given by medical staff members at these meetings were: Hematology and Laboratory Tests as Related to Dentistry; Cancer of the Mouth and Face; Endocrinology and Metabolism as Related to Dentistry; Cardiology, Diabetes, Medical Evaluation of the Dental Patient; Anesthesia and Pharmacology of Anesthetic Drugs; Plastic Surgery of the Face as Related to Dentistry; Kidney Physiology; What a Dentist Should Know About the Heart and its Function.

Although some of the subjects might seem to be far from the dental field, the instructors did good work in correlating the subjects with the mouth and teeth. Meanwhile, the dentists responded with eager interest, flashing questions at the lecturers that kept them jumping.

In turn, the dental staff members are giving lectures to residents and interns on such subjects as: Aspects of the Periodontia Problem; Medical-Dental Relationships; Oral Surgery; Temporo-Mandibular Joint and Occlusion; Dental X-ray Interpretation; Orthodontia; Children's Dentistry.

The dental staff has worked out a stand-by plan to take care of emergencies, such as broken jaws, that might present themselves at the hospital. However, it is not expected to conduct a toothache clinic except, perhaps, for emergency cases.

The progress of the dental staff has been encouraging, despite the fact that the program had to be started from scratch without any precedents.

Its members are enthusiastic about the program, which, they feel, will not only keep them up-to-date on advances in medicine, but will do more than has ever been done before to bring about better professional relationships between the professions in their community.

D. A. From Korea

(Wide-World—Official Navy Photo)

Mary Park, seaman apprentice, a U. S. Navy Wave of Korean descent, assists Dr. L. J. Balasa, Dental Corp, USN, at the Philadelphia Naval Base Dispensary. She is the daughter of Mr. and Mrs. Ho Kun Park, of Parlier, Calif. Her parents came to this country in 1922 from Seoul, South Korea.

OFF DAYS

To handle some patients, dentists agree,
You'll need the patience of Job.
And there are days, you had no idea,
There were so many such on the globe.

* * *

Take a day you are brimming with vigor and vim,
Your waiting room traffic is slight;
But wait till a day you are feeling all in,
They keep coming far into the night.

—Ethel Willis Hewitt

ANGLES AND IMPRESSIONS

News and Views

Medicine's "Oscar" for 1952, the Lasker Award, went to a member of the dental profession for the first time. The winner was Dr. F. S. McKay, a 78-year-old dentist from Colorado Springs. He received the coveted honor for his research work on fluorine. . . . Reports from Europe: Western Germany has more dentists per capita now than before the war, due to the large influx of professional men from the East Zone. . . . Many of the dentists are working in U. S. Army dispensaries. . . . Almost all dentists belong to the German Dental Association, which is the equivalent of our ADA. . . . German dentists are not required to take board examinations; there are no limitations or restrictions for practicing in any part of the country. . . . Surgery and orthodontia are about the only recognized specialties and are limited and confined mainly to the larger cities. . . . The private patient pays about 5 marks for an extraction, which is approximately $1.25. . . . Dentists who treat patients covered by state insurance get 2 marks, or 50 cents, for the extraction. . . . British dentists have been experimenting with thistledown seaweed as effective hemostatic agents. It is processed into powder form, dissolved into a thick solution, then filtered into fine threads which are woven into gauze. It arrests socket bleeding and yet does not affect penicillin.

"I WISH ALL MY PATIENTS WERE LIKE YOU!"

Inci-dentals

A physician with apparently suppressed literary desires entered the following on a death certificate: "Alcoholism led to poverty. Welfare department gave him too little to keep him alive and that he spent on booze. Lack of coal led to freezing in a shack too cold for a hog. Pneumonia mercifully put an end to his long life in hell and sent him back to heaven where he came from." . . . If more dentists start following Dr. I. L. Cook of Wisconsin, who instead of retiring, moved his office into the woods near his favorite trout stream, you can expect more offices with a window view of golf fairways and fish fries. . . . Odd Names Dept.: J. C. Toothaker is, of all things, a dentist! . . . A captain in the Army Dental Corps stationed in Heilbronn, Germany, believes in getting large groups to open their mouths together. He wrote the words for the theme song for the Armed Forces Network radio show "Crossroads, U.S.A." and it was recorded by the 7th Army Chorus. . . . The pharmacy department of a western college believes in the old adage, "If you can't beat 'em, join em!" Realizing how impossible it is to teach physicians and dentists to write prescriptions more legibly, they've begun a course on deciphering the medical man's scrawling. A collection of a few hundred slides make up their weird assortment of scribbling. . . . Letter of the Month: A publisher received the following note: "Please send me the name of a good book on personal hygiene. I think I've got it."

TIC Tips

A good testing paste for noting denture sore spots is made up of: By weight, 15 parts zinc oxide; 10 parts of amylum; 6 parts vaseline; to make 2 oz jar of paste. . . . Zinc oxide-eugenol can be made to set within a few minutes after packing if the end of the instrument used for insertion and packing is dipped into a 10% solution of zinc acetate. . . . If you have any trouble gripping a small interproximal wedge when endeavoring to place it between two molars, then try to bring it into place by using a spring type amalgam carrier. . . . Always keep pipe cleaners handy in the office. They can be used to clean saliva ejectors, handpieces, contra angles and belt pulleys. . . . Before re-oiling your handpiece, run it through chloroform to clean it thoroughly.

Reasonable Rhyme

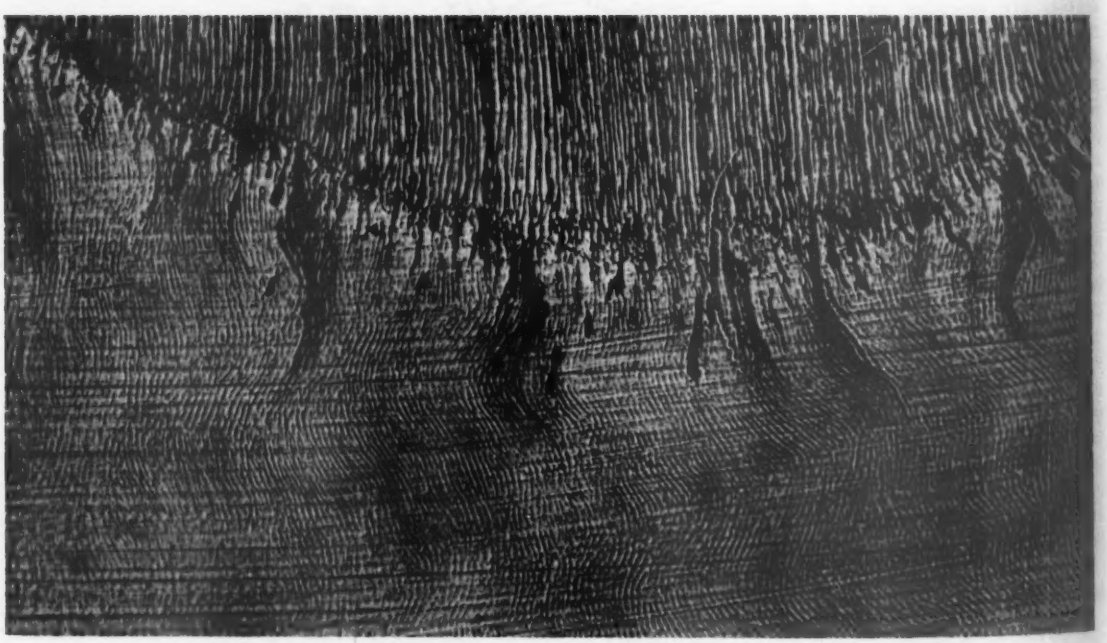
A man named Nyne from the Rhein,
Had a growth on his tongue, benign.
His friend Tyme was put to bed
And received the surgery instead.
Moral: A stitch in Tyme saves Nyne.

New
Reveals T

Text and photos by Authenticated News

WASHINGTON, D. C.: A new technique that utilizes the natural fluorescence of human teeth is being employed at the National Bureau of Standards to reveal hitherto undetected details of tooth structure. In this method, fluorescent photomicrographs are obtained from visible light emitted by very thin tooth sections under high intensity ultraviolet radiation. The micrographs provide

Picture at left shows fluorescent photomicrograph of a tooth section irradiated with ultraviolet light. This photomicrograph, the result of the new technique, brings out details of structure not shown by other methods of investigation. Note that the dentin as seen in this picture fluoresces with much greater intensity than the outer enamel and that lines of growth in the dentin stand out with great clarity. Fluorophotomicrographs, showing variations in intensity of the fluorescence of different areas of teeth, are made with a photomicrographic camera used with camera lenses or a microscope, depending on the magnification desired.

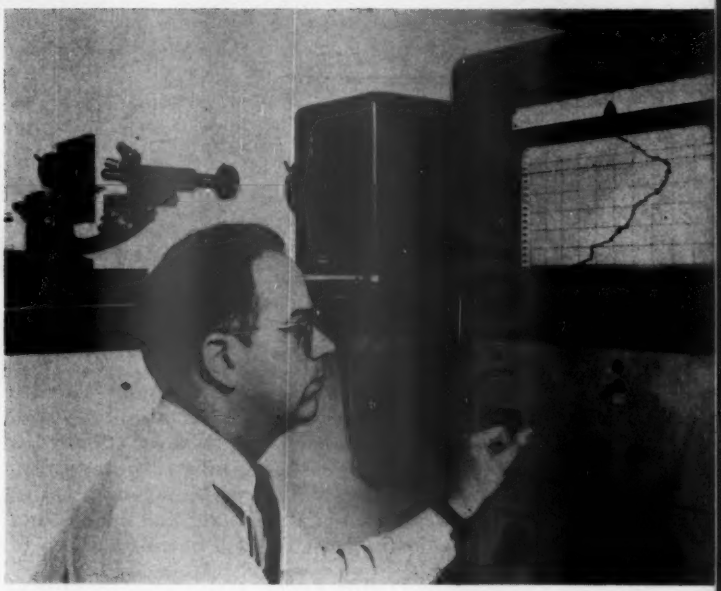


Dental enamel junction in a tooth section, photographed by visible light.

...nique ... Structure

...ntistry in the News Feature

information in the distribution of the organic content of enamel and dentin and show development or growth lines very clearly. Such information is expected to be of value in explaining the mechanism of decay. Great differences exist in the resistance of the teeth of different individuals to decay, and these differences are thought to be associated in some way with the manner in which the hard, calcified tooth structures are deposited.



Above: Recording spectrometer used to analyze the fluorescence of tooth structures. Ultraviolet radiation from the mercury vapor lamp (upper left) excites fluorescence in a tooth section mounted in the microscope (right of the lamp). The microscope projects an image of the fluorescent tooth section onto the slit of the spectrometer, and the spectral intensities of various areas of the specimen are automatically recorded on the chart at right.

Picture shows denti-enamel junction in a tooth section photographed by the new fluorescence method. Note the absence of fluorescence in the immediate area of the junction and the intense fluorescence of the tufts extending upward into the enamel.

Dental Wives:

Meet the Folks

by Kay Lipke

Down the busy city street they came. The dentist, the dental wife, and the dental nurse walked three abreast on their way to work. This few-minutes-after-eight-in-the-morning rush was a regular routine for the dentist and his assistant, but for the dental wife it was an occasion, and she was thoroughly enjoying herself as she hurried to keep up with them.

Suddenly, as they rounded the corner of the building where the dental offices were located, a woman stepped forward and greeted them with a smile and the words, "It's about time you got here."

Immediately she fell into step beside them, and the three became four. At the building entrance a short stocky man, who obviously had been waiting, stepped forward with a "Good morning," and followed them into the foyer. So the four became five. In front of the elevators a young girl waited; her face lit up as they arrived. She entered the elevator with them, and the five became six. By this time the dental wife was on fire with curiosity.

"Well," said Brownie, the dental nurse, looking around her like a mother hen with a brood of chicks, "it seems we're collecting patients all along the way this morning."

Everyone laughed, the dentist's wife was introduced to the group, and for the first time found the answer to this Pied Piper of Hamlin procession of the past five minutes. The three newcomers were her husband's patients, two of whom were stopping by on their way to work for their regular after-surgery checkup, and the third was his first morning appointment.

"Shop-Talk" Characters Become Real

In this rather odd manner she was meeting some of the folks who occupied the major part of her husband's time, and consumed the major part of his energy. She might have heard him discuss their dental problems the night before, he might even have told her individual things about them, but they remained vague shadows to her, figureheads with dental problems, lost among the memories of myriad others she had heard about during the years and had forgotten. Now suddenly they emerged as live people.

It is astonishing how often a wife can apparently listen intently while her husband describes his day's activities, his problems, and the people he comes in contact with, and still can allow his conversation to drift casually in one ear and out of the other without its registering vitally upon her mind. She forgets that this after-dinner report on his professional life, upon which the family income for the most part depends, should really be one of the most important hours of the day for her. If it were a television program she would listen avidly, and be able to describe it in detail later on.

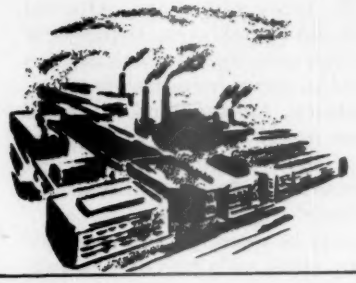
It is far more vital for her to know her husband's problems and the people he faces during his working hours than the committees she is a member of in her feminine activities, and whether she played a good game of bridge that day, and who said what to whom.

Facing Up to Reality

This is one of the great virtues of a dental wife spending some time now and then in her husband's office. His professional life becomes personal to her when she is able to watch him at work with his patients. These patients become vital living beings, each with an individual nervous reaction, health problem, personality, and a home situation which influences greatly that person's behavior in the dental office and, in turn, can make her husband's day easy or difficult.

When she is in the office occasionally, meets his patients face to face, and watches him take care of them, she acquires an interest and a more sympathetic understanding, and thereby loses her resentment toward the patients who demand and take such a large store of his nervous energy. Suddenly she sees that his fatigue at the end of the day is justified and not a clever masculine plot to get out of social activities in the evening which he wishes to avoid.

At a cost to himself, he is improving the health status of his patients and, by modern psychosomatic treatment, helping to relieve their tension and send them away feeling that it was not what their dentist could do *to* them which mattered, but what he could do *for* them.



R FOR LIVING

Doctor E. R. Aston—Pioneer in Industrial Dentistry

by Joseph George Strack

PART TWO

Emphasizing the Nation's need for a reservoir of healthy manpower to meet the tremendous defense program now under way, in addition to the normal production needs of an increasing population, Doctor Aston states: "Insurance statistics based on physical records of 1,000 employees with good mouth conditions and 1,000 with poor mouth conditions selected at random from insurance files showed that the people with poor mouth conditions had a greater incidence of ailments that formed the direct or indirect cause of illness which resulted in absence from work." He continues: "Current surveys also corroborate this statement, revealing an average of four and a half days per employee per year are lost from work because of toothache or some dental ailment. From this figure it is easy to see that the dental disability rate is an industrial liability. An industrial manager has but to sit down with pencil and paper and figure out yearly production losses due to absenteeism from dental sources and balance them against the cost of a dental care program to see how these services can save the plant money. Wherever there is complete health service, dental and medical, conclusive proof is available to show that by controlling dental infection, employee lost time results are materially reduced."

It is to this problem of dental disability in industry that the American Association of Industrial Dentists is devoting its efforts.

The American Association of Industrial Dentists devotes its activities to the problem of dental disability in industry, through a program that includes:

Educational efforts to make industry, labor, and the dental profession itself aware of the need for industrial dental health programs.

The promotion of demonstration projects of preventive-dentistry measures in industrial plants.

Teaching industrial nurses the fundamentals of an educational dental health program.

Doctor Aston conducting an industrial dental program.

Doctor Edward R. Aston, who is the industrial dental consultant in the Pennsylvania Department of Health, stresses that even though some dentists may not be interested in doing industrial dentistry, they should, nevertheless, for the good of dental health everywhere in America and for the welfare of the profession, support the movement to get these needed preventive services to the industrial workers of the Nation.

For dentists who may be interested in participating in such programs, either on a part-time or full-time basis, he suggests that they stimulate interest in such programs in their local and state dental societies and, within the framework of their dental societies, help to promote interest in this phase of dentistry. The American Association of Industrial Dentists will be glad to furnish information about such programs to any dental society or interested dentist. Doctor Aston will undertake to answer inquiries sent to him. Address him as follows: E. R. Aston, D.D.S., Secretary, 1400 N. Cameron Street, Harrisburg, Pa.

Plants with 1,000 or more employees should have a dental program of their own for their employees, he says, and plants with fewer employees can join together in using a common dental health service set up in their geographical area.

How to Organize a Program

The following guidance on how to go about organizing an industrial dental health program was prepared by Doctor Aston and published by the Pennsylvania Department of Health under the title of *Organizing an Industrial Dental Health Program*:

> When planning a dental program for the industrial plant it should be remembered that the dental service is an integral part of the entire industrial health program and it is essential that it be considered in all the health activities within the plant. Dental activities and findings are a definite part of the entire health picture of the worker.
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> The industrial health physician is well educated in the diagnosis of abnormal conditions of the body. Diagnosis of conditions of the hard and soft structures of the oral cavity should be the responsibility of the industrial dentist.
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> In planning a program it is necessary to consider certain factors. The type of industry often dictates the need for particular dental service. The raw materials used, for example: lead, phosphorus, mercury, and radium and the methods of processing may cause oral conditions which will necessitate the placing of emphasis on specialized dental services and certain dental obligations. The need for dental care is essential to plants in areas where there is an insufficient number of practicing dentists, and as a result it may be necessary to increase the amount of service rendered their employees. It may also be found necessary to make some provision for the dental care of the dependents of employees, when large worker groups are moved into industrial areas.
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> Plants are considered small or large according to the number of workers that they employ. The dividing line has been arbitrarily set at 500 employees. The number of employees that one full time dentist can properly handle depends on the amount of service that each individual will receive, the amount of time that the program has been operating successfully, and the number of personnel.
>
> There are certain essential factors that should be common to industrial dental programs. They will serve as a basis upon which programs supplying local needs may be erected.
>
> The essential factors are:
>
> 1. Personnel.
> 2. Office space, supplies, and equipment.
> 3. Records and recordings.
> 4. Examination service.
> 5. Emergency service.
> 6. Prophylaxis service.
> 7. Dental health education.

INDUSTRIAL HEALTH PROGRAMS PAY DIVIDENDS

More companies are putting medicine to work in their plants—and it's paying off. A survey by the National Association of Manufacturers of 3,589 member companies with 3,312,647 employees shows:

1. Firms with health programs are spending on an average of three times as much per employee on health and safety as they were in 1940—$25.09 compared to $8.81.

2. Plants employing 40 percent of the total workers surveyed reported a drop in occupational disease. Of the companies that have accident prevention programs, 65.3 percent reported accident reduction. Lowered compensation insurance premiums are reported by 1,241 companies.

3. Health programs helped reduce *absenteeism* in 40 percent of the companies. Thirty percent said that the programs helped reduce labor turnover—partly by helping match the worker to the job through pre-employment physical exams. A whopping majority—86.4 percent—said the programs helped improve employer-employee relations.

National Fund for Medical Education

In discussing these factors individually it should be understood that they represent the basic needs for a program where there are approximately 1000 employees.

The personnel of an industrial dental program should consist of first a dentist, then a dental assistant, clerical assistants, and if possible, a dental hygienist.

The office should be large enough to contain the dental chair and unit, treatment cabinet, lighting facilities, sterilizer, X-ray, dark room, and X-ray developing equipment, and the armamentarium to conduct examinations in mass numbers. There should also be included an intra-oral fixed-focus camera to record for reference, oral conditions of an unusual nature.

Records and recording systems should be given considerable thought as some of these records may help to determine compensation claims that may be filed against the company. Selected data, accumulated on the patient's record card, will not only present a picture of the employee's needs and corrections, but will furnish additional information for scientific investigation. It will also be possible for these records to evaluate the program and determine the changes necessary to improve and expand the service.

The scope of the dental examination should be quite broad and should include: the number of teeth to be extracted, teeth that are missing, teeth showing dental corrections that have been made and should be made, other conditions deviating from the normal and any other essential information that may be of help.

It is the policy of this Bureau that the program should confine itself to the following:

1. Industrial dental programs shall have the approval of the Dental Section of the Division of Industrial Hygiene, Department of Health, Commonwealth of Pennsylvania and the Pennsylvania State Dental Society who shall supervise the providing of such personnel and equipment as is necessary to carry out a complete industrial service. Personnel shall be restricted to dentists in good standing in their local and state dental societies.

2. Dental services in the Industrial Dental program shall provide:

A. Pre-placement and periodic examination and diagnosis. The use of the X-ray is recommended.
B. Prophylaxis.
C. Treatment
   (a) Emergency:
      (1) Palliative.
      (2) Occupational injuries and diseases.

3. A dental health educational program should be promoted and employees encouraged to obtain necessary dental treatment, other than that of an occupational nature. The choice of a personal dentist shall be made by the employee.

4. Uniform records of findings and treatment should be kept on standard forms.

5. Programs requiring services other than those outlined must have the approval of the local dental society.

These essentials are advocated, because in following them a greater number of employees may benefit. By referring the employee to his personal dentist for treatment greater cooperation can be expected from the practicing dentists in the area where such a program is carried on.

Periodic examination would serve as a follow-up and enable the examiner to record the treatment that has been obtained by the employee since his last examination. Periodic examinations will also keep the employee dental minded and therefore improve his oral hygiene by obtaining this periodic treatment.

There should be an extensive pre-placement examination on all employees just as there is the need for a complete medical examination. This is advised because there are many industrial compensation conditions that could be carried to a plant by an employee but contracted through previous occupations. This stresses the need for complete dental records.

Payment for services should be determined by those participating. The best plan, of course, is that which would be sponsored entirely by management. The expenses would be classified as:

1. Fixed.
2. Variable.

Fixed expenses would include equipment, supplies, rent, heat, light, etc.

Variable expenses are the salaries of the personnel, these being determined by the area in which the program is being conducted, the amount of time devoted to the program by the personnel, and finally the qualifications of the personnel, especially the dentist. Considerable effort should be stressed to obtain the services of a dentist whose ethics are unquestionable and whose background is without reproach. The success of the program would depend to a great extent on the proper selection and these qualifications would dictate the expense.

In presenting a plan for a dental program to management it is advisable not to make the package too large. It is recommended that a program involving the least expense be submitted and if accepted and carried out successfully then at some later time approval for enlargement of the scope of the program could be undertaken.

To illustrate a successful program attention is directed to one being carried on in a central Pennsylvania city with a metropolitan population of 175,000 people from which the employees are drawn. The number of employees participating is in the neighborhood of 9,000.

The floor space is estimated at 540 square feet, which is broken down into two operating rooms, business office, and dark room. The equipment consists of two motor chairs and units, instrument cabinets, sterilizers, X-ray and dark room equipment, and the necessary instruments for conducting thorough examinations. Personnel consists of the dentist, dental hygienist, and clerk, all on a full time basis. The services rendered follow out the recommendations appearing previously in this article. The cost per employee, including rental, light, supplies, and salaries amounts to approximately $2.50 yearly. This also includes insurance on the operator, both life, health and accident, and liability. This figure of cost per employee was obtained by assembling the entire cost of the program annually and dividing it by the number of employees who had received thorough examination or emergency service.

Any plant having an employee population of 1,000 or less, and providing only examination, diagnosis and referral program, does not require the service of a full time dentist and other personnel, but it is recommended that any industry employing 2,500 or more use the services of full time personnel.

It is suggested that the advice of the state, county, and local societies and health department be obtained when planning a program as the dental practice acts of many states differ and do regulate the scope of the program.

Background of a Pioneer

When Doctor Aston obtained his Doctor of Dental Surgery degree from The Thomas W. Evans School of Dentistry, University of Pennsylvania, in 1919, he had no idea that he would become one of the leaders of industrial dentistry in the United States. Indeed, he spent a quarter-century in private practice. But then a physical condition precluded his spending a full day at the chair. He began to ponder his future in dentistry. At that very time, in the fall of 1943, the Bureau of Industrial Hygiene of the Pennsylvania Department of Health was seeking a dentist with the vision and ability to initiate, promote, and carry on an industrial dental health service for the industries of the State. Doctor Aston, intrigued by the possibilities of the proposed new service, sought and obtained the appointment.

It was an appointment, in fact, to create his own job, for neither the job nor the program itself existed, except as an idea. Doctor Aston set about the task of developing an industrial dental program, the first set up by any state in the Nation. That program came into being only after years of painstaking investigation of needs, needs determined by traveling throughout the state and seeing for himself at first hand what the conditions were, and talking with scores of directors of health services, representatives of management and labor, and the industrial workers themselves. Once Doctor Aston was convinced that he had a basically sound program that would be acceptable to all concerned—industrialist, worker, dentist—he presented his program to department and bureau heads, who endorsed it.

Doctor Aston then proceeded to demonstrate the necessity of including dentistry in a total industrial health program. He secured equipment and moved it directly into the dispensaries of a number of selected industries. Then he conducted his demonstrations and surveys. He isolated dramatically the incidence of dental disability and showed what it cost in poor dental health to the worker and in absenteeism and loss of production to management.

Formerly secretary and member of the board of directors of the Pennsylvania State Dental Society, he has also served as president of the American Association of Industrial Dentists, of which he is now secretary. He is a reserve officer in the U.S. Public Health Service and a member of many dental organizations. He has written and lectured widely on industrial dental programs, and his efforts have earned him worldwide recognition.

If American dentistry realizes the tremendous potentialities of this field that Edward Aston has pioneered so promisingly, every dentist will be in his debt.

NO PROFIT IN IT

I can't get an appointment
With him to save my life.
I'd get another dentist
But I'm the dentist's wife!

Sue Taylor Coons

WHEN YOU RECOMMEND A SPECIALIST

by Arthur H. Levine, D.D.S.

Doctor Randolph Moore stirred uneasily in a deep sleep. Suddenly, he awoke and listened intently. The night was black and silent. The luminous dial said four o'clock. At first he heard nothing but his wife's regular breathing. Then he caught the sound, a rattling against the window, like pebbles being thrown. He slid out of bed, tiptoed across the room, and looked out. The beam of a flashlight in someone's hand was illuminating a portion of the flagstone terrace below. Gently, he raised the window.

"Randy," the voice from below said in a whisper, "it's me, Dave. I'm going crazy with this tooth. Didn't want to wake the family."

"I'll be right down," Randy said.

He went back for his slippers and robe and then closed the bedroom door after him with great care.

"I hated to bother you," said Dave as they walked into the office wing, "but I'm just about out of my mind. I took everything in the medicine chest but nothing helped. I've been walking the streets waiting for morning."

Randy Moore washed his hands and selected a mirror. Accidentally, the mirror grazed the tooth lightly. The patient lurched in the chair and grabbed his face in his hands.

"Oh, great!" said Randy.

"What's the matter?" Dave mumbled.

"Novocaine will never touch that. You need gas. I'll have to send you to a specialist. But we'll have to wait until morning."

"Try the needle," he begged. "I can't stand this."

"All right."

Two hours and three injections later the pain had not abated. Smoking and talking stretched it another hour. At seven, Randy announced that he would call the specialist. Maybe he would come in a little earlier.

Randy called him at his home. The specialist politely informed him that he would have to wait until nine when he would have an anesthetist. Randy explained how long the patient had already suffered and that he himself would be willing to remove the tooth if the specialist would give the anesthetic. No. Sorry. Well, then, could he ask the anesthetist to come in early. No.

Randy hung up and went back to his patient. One look told him he was in no shape to drive by himself, so he got dressed and drove him to the specialist's office. They sat in silence and waited. At nine o'clock the specialist arrived and at nine-fifteen the tooth was removed.

It was the last time Randy Moore referred a patient to that particular specialist.

This small, true incident illustrates one part of the relationship that ties together the patient, the general practitioner, and the specialist.

In this particular case, Randy Moore had been referring patients to the specialist long enough for the specialist to realize that an appeal for help outside of regular hours was based on a real need. After all, this was the general practitioner calling, not the patient.

It is the duty of every general practitioner to protect the specialist against waste of time or energy. Each patient must be screened by the general practitioner before being referred. With few exceptions, the specialist can go to work almost at once. Even if the actual diagnosis has not been made, the specialist has a definite idea of what is involved.

In return, the specialist should be available to the general practitioner at all times. When a patient needs a specialist at once, he really needs him. As a matter of fact, the dire need, the true emergency, constitutes a very small part of a practice. But when that need is indicated, particularly by the general practitioner, it behooves the specialist to cooperate.

Consider Personality of Specialist

Another consideration in referring a patient to a specialist is the personality of the specialist and of his office. Patients react quite differently to their surroundings and it is the job of the general practitioner to study them. A sensitive, introspective patient who has to have an impacted third molar removed would do better with a specialist who sees few patients and works in a calm, quiet office. An

DENTISTS IN POLITICS

With good government to the fore,
This thought intrigues me more and more:
If to Congress they were elected,
Dentists could keep our rights protected,
And to constituents bequeath
Laws empowered with good strong teeth!

Barbara Becker

outgoing, jovial type patient, on the other hand, would not mind, in fact might enjoy, the busy, hustling exodontist who keeps a half dozen operating rooms going.

In recommending an orthodontist it is particularly a heavy responsibility on the part of the general practitioner to fit the child to the specialist. The treatment is usually long and hence becomes intimate and often tedious. A clash of personalities under such circumstances might prove disastrous. Children today move at a fast pace and bear many pressures. Orthodontic treatment is just one more pressure. If the personality of the orthodontist is not the right one for the child, we have created another pressure or point of tension. There are limits even to what a child can bear.

A Case Example

The case of Donald, a twelve-year-old, is an illustration. He needed orthodontic treatment badly. The general practitioner acknowledged the need but cautioned the parents in view of the child's history. He had been fighting asthma for a protracted time with a long series of injections and trips to different climates without too much success. Since he was below average in his school work and since he was absent so much, due to his asthmatic condition, private tutoring became imperative.

His father was a violinist with a fine orchestra, and so it was taken for granted that Donald, too, would be a violinist. The parents considered themselves broadminded to the point of not expecting a professional musician. But certainly Donald should acquire a proficiency for his own enjoyment. To the father, that meant a minimum of two hours' practice a day. In fact, that was a concession. They finally settled for an hour. At about this time, a routine examination in school revealed a nearsightedness in Donald.

What with injections for asthma, tutoring after school, daily violin practicing, and new glasses, it is small wonder the general practitioner advised caution. But the parents did not heed the advice. They took the child to an orthodontist recommended by a neighbor. Not knowing the whole story, the orthodontist felt it was important to start treatment at once.

Soon after the appliances were placed the boy's school work deteriorated. After a few weeks, the mother, in desperation, appealed to the school psychiatrist. After a study of the case, he cut out private tutoring and violin practicing at once. When that didn't effect a cure, he recommended postponing the orthodontic treatment.

In all justification it may be argued that the boy was headed for trouble whether or not he received orthodontic care. And it may well be. But certainly it throws some light on the necessity of establishing a top notch relationship between child and orthodontist.

Problem of Specialist's Fee

The question of fees is a delicate one when it becomes necessary to refer a patient to a specialist. Certainly it is the duty of the general practitioner to keep in mind the patient's ability to pay. He should know fairly accurately whether the fee of the specialist he has in mind will suit the patient. Obviously, he cannot quote a fee for the specialist. Sometimes the patient is insistent on knowing what the fee will be. In such cases it would be wise for the general practitioner to explain to the patient that only the specialist himself has the right to establish the fee. Those patients who are deeply concerned about the specialist's fee should be advised to ask what the fee will be beforehand.

All in all, a patient who is referred to a specialist is still the responsibility of the general practitioner. And although it is more moral than legal, it is still a responsibility, a strong one, which should be kept constantly in mind.

"I KNOW YOU HAVEN'T PULLED MY TOOTH YET—YOU'RE ON MY CORN!"